



Recent progresses in the dark matter indirect detection

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Dr. Xiaoyuan Huang obtained his PhD from the National Astronomical Observatories, Chinese Academy of Sciences in 2013. Later he moved to Nanjing to work as a postdoc in the DAMPE collaboration. He then moved to the Technical University of Munich supported by the Humboldt Research Fellowship and moved to the Niels Bohr Institute as a postdoc. Since 2020, he is a faculty at the Purple Mountain Observatory. His main research topics are dark matter indirect detection and high-energy astrophysics.



Abstract

Observations suggest that dark matter constitutes a substantial portion of the universe, significantly influencing its evolution. Despite its profound effects, our understanding of dark matter remains limited primarily to its gravitational interactions. A wide range of dark matter models have been proposed, with candidate particles spanning many orders of magnitude in mass. These candidates may give rise to distinct astrophysical phenomena, enabling indirect detection by identifying signals that deviate from expected astrophysical backgrounds. In this talk, I will introduce recent advancements in the indirect detection of dark matter across various mass scales, with multi-wavelength observations.

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